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AUTHOR McDonald, Geraldine
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ABSTRACT

This document reviews recent research on language development and discusses some of the methods for encouraging language used in commercially produced lesson plans such as the Peabody Language Development Kit, the Peabody Early Education Kit and the Distar Language Program. An argument is presented against the concept that some children (particularly from minority groups) have "no language" and cites personal research with Maori children which suggests that the types of skills being tested make considerable differences in the results. It is also suggested that children in structured programs fail to maintain gains because these gains are simply an increase in vocabulary and older children, who are more mature, more socially confident and often better motivated to learn than younger children, can rapidly catch up with gains made by younger children. It is also argued that it makes little difference whether children start their formal schooling at 5, 6 or 7 years of age and that the kind of "structure" which would be desirable in preschools is to have teachers who are well trained and possess an up to date knowledge about language development. (MS)

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STRUCTURE AND THE EDUCATION OF YOUNG CHILDREN

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

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Recent Research on Language Development in Young Children

Geraldine McDonald NZCER

One of the aims of just about every structured programme that has been devised (and a great many have been devised in the last 10 years) has been to develop language in young children. I have been asked on many occasions to comment on the language part of structured pre-school programmes and so today I am going to discuss some of the methods for encouraging language used in commercially produced lesson plans such as the Peabody Language Development Kit and the Peabody Early Education Kit both produced by American Guidance Service, and the Distar Language Programme produced by the firm of Science Research Associates (SRA). Similar methods can also be found in Marion Blank's (1970) tutorial programme and in Gordon Schiach's (1972) book Teach them to Speak. I will look also at overseas evidence on the results of these structured language programmes and I shall report some results of a research project of my own where these have relevance for the present topic.

What is language? The answer depends upon who is giving it. Teachers, for example, often use "language" to refer mainly to reading and writing and other forms of language use which are learnt largely as a result of teaching. A linguist, on the other hand, would think of the underlying symbolic system by which we communicate meanings and he or she would think of the child as a speaker and hearer rather than as a reader and a writer.

The difference between the two answers, broadly speaking, lies in the difference between the conscious use of language as in learning to read, and intuitive or unconscious use as in acquiring speech and acquiring understanding of speech. It is very common for these two usages to be confused. I am going to suggest that, if you are concerned with the language of pre-school children, then it is speaking and comprehending which should be of primary importance.

Speaking and Hearing

Not long ago I was observing a child in a new entrant class and in the

course of the morning I sat down with a group of children who were practising writing sentences. I turned to one little girl and the other children chorused, "She can't talk!" I said to her, "Can you talk?" and she smiled and shook her head. It was true she had great difficulty in speaking. She could not say words with more than two syllables, she reversed sounds and syllables, and she could not link words together in sentences. She really had very little speech. I then looked at her book and she had written a sentence. I next discovered that she could read quite well although her reading aloud was rather hard to follow. In fact, she understood language and could use it in written form even though she could not make intelligible speech sounds. Had anyone judged her by her speech behaviour alone they might have concluded that she had "no language" but, as I have tried to suggest, even though this child's speech was severely disordered, nevertheless, she did have language because she understood the system that we use to convey meaning.

One of the most preposterous claims ever to have been made has gained popularity in recent years. It seems to have been made popular by Bereiter and Engelmann. The claim is that some children, and particularly children from minority groups (for example, Maori children), have "no language". Now it is quite true that some children do not talk very much and that others speak only when they feel absolutely safe and secure, but it is extremely rare for four-year-old children to have "no language" and, despite the illustration I have just given, almost as rare for them to have "no speech". Some of you here today probably dry up and go weak at the knees if asked to address large gatherings of people. And yet you can speak. You have language.

The first point I want to make, then, is that we should, at all costs, avoid believing that any group of young children has "no language". We should avoid thinking in this way because it is inaccurate, and because it makes the children to whom it is applied seem less than human. Language is generally thought to be a special property of human beings as distinct from animals. Therefore, we are saying something particularly unpleasant if we suggest that any normal child has "no language". Fortunately, attitudes about language seem to be changing and I would recommend you to read English in Education 10:1, 1976. This particular issue is subtitled 'The Young Child'. It contains up-to-date, sensible and readable articles on language and the young child. The articles are suitable for students in training, teachers and parents. Here is what the authors of one of the

articles says,

> .... to claim that any home is not a learning environment for the young child who lives there is simply absurd .... Such stereotypes help to activate a new mythology about 'linguistic deprivation' which has rapidly gained currency among teachers, especially those who work with young children. The sort of children who used to have rickets now suffer from 'a restricted code' .... (Nicholls, 1976, p.24).

The second point I want to make is that a child's language ability is not a single unified entity. As I have already said, we acquire the ability to understand language and we acquire the ability to use it. We acquire words, sentences, patterns, speech sounds and we learn to relate speech sounds to meanings. Furthermore, we acquire the ability to use language appropriately in different situations, for different purposes, and with reference to different things. (Tough, 1973). We must always remember that young children have to become competent in communicating and that is in large part a social skill.

In 1971 I was asked by the Maori Education Foundation whether I would do some research related to pre-school education for Maori children. It was a time when there was much interest in structured language programmes for young children. I was mindful of the fact that Carl Bereiter, who with Siegfried Engelmann had run what was described as an academically oriented pre-school had said that,

> By the time they are five years old, disadvantaged children of almost every kind are typically one to two years retarded in language development. This is supported by virtually any index of language development one cares to look at.

I thought to myself, "Is this true?" Were Maori children, perhaps, "one to two years retarded in language development ... [on] virtually any index of language development?" When I planned my research I developed three sets of tests based on one related set of words. This meant that I could test children for word recognition, for comprehension of the ideas signified by the words, and for their use of these words.

Next I looked at the kinds of things that were being taught to children in various structured language programmes. In the Bereiter-Engelmann pre-school the children were taught to say things such as, "This is a bell". "This is not a book". They were also taught to use polar opposites such as big - little, long - short and so on. In my research I took 18 polar opposites as the target words for study and I also examined the notion that ideas are developed by negative instances, that is by learning what something is not. My sample consisted of 40 Maori

children and 40 Pakeha children all four years of age. [slides here]

Some Results

Are Maori children "one to two years retarded in language development ... on any index of language development"?

My measurements were made on the target words big - little, long - short, high - low, wide - narrow, deep - shallow, far - near, thick - thin, fat - thin, tall - short. I tested first for the child's ability to recognise the words when they heard them and to pick out an appropriate object from a set of three. [slides here] Then I tested for a child's understanding of the idea that the word referred to [slides here] and finally I tested to find what words of the target set the children could be persuaded to use [slides here].

The results showed that, as a group, the Maori children did not use as wide a range of the target words as did the Pakeha children as a group. But there was great variation within each sample. There was no statistically significant difference on overall performance between the two groups, Maori and Pakeha, on the word recognition series although the Maori group did not do as well as the Pakeha. This was caused mainly because many more Pakeha children than Maori children recognised the word low. Again there was overlap in the two groups. On the series testing for comprehension of the ideas referred to by the words, however, there was no difference between the performance of the Maori and the Pakeha samples, the Maori sample doing better overall on about half the tests.

These data suggest that the type of skills being tested makes considerable difference to the results and it is certainly not true that the Maori children were much behind the Pakeha on any tests - much less two years behind.

Now let's look at the original statement - "disadvantaged children ... are one to two years retarded in language development". What on earth does this mean? What constitutes retardation? The comment is about five-year-old children. Perhaps Bereiter means that all disadvantaged children are two years below the average five-year-old. But what is the normal range of performance? Perhaps he means that you classify a child as disadvantaged if his scores on language tests are two years behind his chronological age. This statement is typical of much that is written and published about the language of children from minority groups - you cannot tell what it means. And it seems most unfortunate that the authors of structured language programmes claim similarity between mental retardation and social disadvantage. In the manual of the pre-school

level of the Peabody Language Development Kit it states that "it was designed primarily to stimulate the overall language development of disadvantaged and retarded pre-school children". (Dunn, Horton and Smith, 1968, xxi)

Both my reading and my research suggest that the kind of language exercises advocated in both the Bereiter-Engelmann Programme and in Marion Blank's tutorial programme are unlike what occurs when children acquire the concepts of natural language. Bereiter and Engelmann believe that we have to learn that if a thing is one thing it is not something else. "This is a _____. This is not a _____". Since this is one of the very earliest things that a child learns (it is implied by what Piaget calls the object concept) there seems little point in practising this. However, Bereiter and Engelmann obviously think they are building up concepts in the child's mind. What are the research findings on how young children develop natural language concepts? Children appear to start with the idea that words stand for a class of objects (Vincent-Smith, Bricker and Bricker, 1974) and there is no convincing evidence that words begin as mere labels for particular objects which the Peabody Language Development Kit would have us believe. Moreover abstract concepts are not built up on the basis of experience of a collection of examples all relatively equal in importance. For example, children become more certain of their own size than of the sizes of less familiar objects. It seems to be common for children to start with one striking example of a category and to work out the other members which belong in this category in relation to this. For example, the children's concept of "animal" usually starts with a domestic animal such as a dog. And the child decides that cats, cows and so on are related to dogs. For some time children tend to confuse the words for various animals and there is a tendency for them to over-extend the use of their first named animal. It is not at all uncommon, for example, for children to call a variety of animals dog. This is not a sign of retardation, nor of perceptual problems in the child, but an indication that children expect words to apply to more than one kind of thing.

In the case of the words that I studied, big and little are the first size words learnt. The others such as long, high and deep are worked out by the child on the basis of their resemblance to big. Words like these are not learnt by reference to their opposites. For example, long is not learnt by reference to short but by reference to big.

I am not saying that you can do nothing for young children's intellects,

indeed you can, but the commercial sets of lesson plans (Distar, Peabody Language Development Kits, Peabody Early Education Kit) are based on no more than traditional notions about language and thought. Despite their claims, they contain no special secrets for the development of language in young children, and in a number of particulars, as I have rather briefly, tried, to show, the methods they use bear no resemblance to the way in which young children acquire language skills under natural conditions.

A Measure of the I.Q. of Young Children

People often ask whether the striking results reported in structured language programmes represent real gains in the intelligence of the children or whether they are brought about because of the way in which children in these programmes are tested. Children have been reported as gaining up to 45 points of I.Q. I looked into the matter of how these gains were measured.

Perhaps the most widely used instrument for measuring the intelligence of young children is the Peabody Picture Vocabulary Test. (Dunn, 1965) This is commonly used to measure I.Q. gains of children who have been in structured programmes. PPVT allows children so many months of mental age for every word recognised. There are two forms or versions of PPVT. On Form A a child between the ages of 3;9 and 4;2 who gains a raw score of 11 (i.e. recognises the appropriate picture for 11 words in the test) is given an I.Q. of 55 and a mental age of 2;1, that is, he is mentally retarded. However, if he learns 35 additional words he will gain 45 points of I.Q. and have an I.Q. of 100 and a MA of 4;7 (which seems odd). If the child learns to recognise a referent for $\frac{3}{4}$ of a word he gains one point of I.Q. on Form A of PPVT. On Form B a child between the ages of 3;9 and 4;2 who "knows" 16 words has an I.Q. of 56. If he "knows" 42 words he reaches I.Q. 100. Therefore to become normal in intelligence the child needs to acquire 26 words and ½ a word will give him one I.Q. point.

One must now ask how hard it is to teach young children content words of the kind used in the PPVT. The answer is, very easy indeed. (Nelson and Bonvillian, 1973). And it has been noted many times by those who have commented on the I.Q. gains reported in various pre-school programmes, that the gains are "predictable because of the heavy emphasis placed in such tests on verbal symbolism and the corresponding emphasis on verbal learning" in such programmes. Incidentally, most measures of I.Q.

for very young children depend heavily on measures of language comprehension.

There is some justification for measuring a young child's intelligence by measuring his recognition of content words because this does seem to show high correlations with other measures of intelligence but you can also see how easy it is to "raise a child's I.Q." if the way you measure I.Q. is by a child's ability to recognise words.

The Conditions for Measuring I.Q.

The PPVT and, in fact, every published psychological test that I know of states that the children must be tested alone in a quiet room. What effect does this have on a young child? Brown and Semple (1970) made a special study of what happens when you take young children away from their familiar surroundings and they noted "freezing" behaviour "global gazing", and other signs of fear in young children. In my study I had the opportunity to observe the effects of testing children in different kinds of places and I can assure you that children respond best (more intelligently if you like) in the surroundings of their own home and in the company of relatives.

The most famous account of what happens when a child is tested for language ability in unsuitable conditions is given by the sociolinguist William Labov (1970) and I do urge you to obtain his article and to read it if you have not already done so.

And yet, it is true that young children do blossom while they are in structured programmes of which there must, by now be hundreds of different kinds throughout the world. Let us look more closely at the possible causes of this blossoming.

Structure and Language Development

The kinds of programmes that have received the most publicity are ones in which language information is imparted and language practice is conducted with the use of special materials in structured group settings - that is, small groups of children answering the teacher's questions or responding to her commands. However, Hart and Risley (1974) demonstrated that "the free-play periods of pre-schools can be used as powerful incidental teaching periods by capitalising upon moments when children request new play materials to teach them systematically more elaborate language". (p.255). The authors waited until children spontaneously approached them and then used this opportunity to speak to the child about what he was doing. And, the children made great gains on measures of language by this method too.

However, it must be admitted that very frequently,

> The 'tutorial' conversation of teachers tends to provoke monosyllabic replies, or no reponse at all from the child, and ... dialogues in the nursery school tend to be teacher - rather than child-initiated, with very few 'curiosity' questions coming from the children. (Tizard, 1976, p.34).

Alan Hall's (1976) research reinforces this point, and so does Mike Cooper's (1975).

Nevertheless, it appears that children can make significant gains on a variety of measures whether the child is "taught" in a group in the school style, or individually as the opportunity arises.

In 1969 the National Pre-school Experiment was set up in Britain. (Halsey, 1972). The aim was to help children in Educational Priority Areas (that is, children with social disadvantages thought to contribute to poor school performance). Language development programmes were given to various experimental groups. Some groups were given not a language programme but a number programme and children in this programme did almost as well on language tests as the children in the language programme. It has been suggested that "the Hawthorne effect and increased child-teacher communication were partly the cause of the gains". (Booth, 1975, p.55).

Perhaps, then, we can conclude that it does not matter too much what the programme is so long as it has some kind of teaching in it. Before we come to this conclusion it would be wise to examine a recent study by Barbara Tizard, Janet Philps and Ian Plewis (1976). Barbara Tizard, incidentally, was described recently by a reporter in the 'Times Educational Supplement' (9.7.76, p.60) as "not at all of the soft-minded, sentimental school of pre-school experts - all play and social relationships" - which I think is a statement worth pondering. The study was an elaborate one which compared the language development of children in pre-school centres of three different kinds, ones without any expressed educational aims, one with educational aims based on free play, and ones which incorporated a language instruction or concept development session into the school day.

The authors suggest that "the strength with which staff believe they should influence children's cognitive development is more important than their training background", (p.30). If staff believe they are there to "teach" children they will do more "teaching" than if they believe themselves to be there just to care for children. How important for the children's

development, were the differences that were noticed in staff behaviour?

> Our data suggest that with the marked exceptions the test scores reflect familial rather than school influence. The exception is the test scores of the working class children attending E+ [schools with language sessions] which were significantly higher than those of other working-class children. This finding is the more interesting in that none of the children tested had as yet taken part in the special language session.... the inference which we draw is that it is not the "programme" itself which is important, but the behaviour of staff throughout the day which in these centres was influenced by their implementation of a 20 minute language session. Such an interpretation would explain the fact reported in a number of studies and discussed by Weikart .... that all cognitively oriented programmes appear to have about the same effect.
>
> (Tizard, Philps, and Plewis, 1976, p.32. Emphasis added).

And perhaps I can put on record here the fact that the 80 children in the sample I tested appeared to "learn" words during the course of the testing although I did not ever indicate that a child's answer was wrong and I certainly did not "teach" the children anything. How, therefore, did they learn? Some of the learning was quite incidental - they just picked up new words. But something else happened too. After the sessions the children talked to older brothers and sisters about what they had done and these older children did some checking for accuracy and the mothers, who had observed the sessions, often tried telling the child a few more words. Even if no actual tutoring takes place in the pre-school children still manage to learn.

Do Cognitive Gains Last?

Perhaps I could comment here on the fact that early gains seem to fizzle out in children who have been through any kind of experimental pre-school programme. This has been interpreted in a number of ways. Those who believe that you have to intervene early before it is "too late" think that the intervention did not start early enough and they advise starting work with babies. Then there are those who believe that the thing to do is to "Follow Through" by continuing to coach children as they go through school. Of course, if you do this then you can never tell whether the intervention at the pre school level is or is not effective. Then there are those who believe that intervention only lasts if the mother is involved. I think that this last proposition has something going for it if only because when mothers learn things they retain them, whereas

little children are forgetful. However, I think that there are quite obvious and simple reasons for the failure of children in structured programmes to maintain their gains. The first is that the "gains", as measured, are very commonly simply an increase in vocabulary; the second is that older children are more mature, more socially confident and often better motivated to learn than younger children. Hence they rapidly catch up with any gains made by the younger children. And while I disagree with the general conclusions that Raymond S. Moore (who lectured in New Zealand last year) drew from his data (that children should be kept out of educational systems until seven or older), I certainly agree that it appears to make not the slightest difference whether children start their formal schooling at 5 or 6 or at 7 and if it doesn't make any difference over this range of ages it certainly won't confer any special benefit on children to start their formal schooling at 4. In 1932 in New Zealand all five-year-olds were excluded from our schools and had to wait until they were 6. I challenge anybody to demonstrate that all the New Zealand children who were 5 in that particular year have done less well than children who came before and after them.

Conclusion

What kind of structure would I like to see in our pre-schools? I would like the teachers themselves to be "structured" in that they would be well trained. I would like their knowledge about language development to be up-to-date. I would like them to understand what can and what can't be taught by tutorial methods. I would like them to understand that children are spoken to at home and that almost any parent is a more effective promoter of language than is the teacher. And teachers can give information but they are second best as language tutors. I would like child development texts to be critically examined for accuracy and for ethnocentricity. The language of minority groups such as Maoris is not "deprived" nor is it a "restricted code". I would like them to understand just how great is the variation among individual children in any one social group. (Widlake, 1971).

> .... it might be a fruitful step for nursery school teachers to forget for a while about promoting language development, a process we do not understand sufficiently to prescribe for, and to turn their attention instead to developing a wide range of joint activities with children, in which language will naturally occur. (Tizard, 1976, p.36).

Postscript

If you want to read a first-rate but academic treatment of problems in evaluating structured programmes for the pre-school child I would suggest that you get hold of a paper by Walter Hodges (1973) in the Merrill-Palmer Quarterly. It is full of interesting comments of which I will give you just one example,

> .... the problems of the match of educational opportunities with the given aptitudes and attitudes of individual children is much too complex to assume that any single model will suffice for any large population of children. The general potency of some models may seduce the research worker as well as the practitioner into ignoring the individual failures within programmes in favour of the overall mean gains of groups of children.(p.285).

Urie Bronfenbrenner wrote a major report Is Early Intervention Effective? for the United States Department of Health, Education and Welfare. A shortened version of this appears in the Teachers College Record 1974, 76:2, 279-303. Two of his conclusions were:

> .... the family seems to be the most effective and economical system for fostering and sustaining the child's development. Without family involvement, intervention is likely to be unsuccessful, and what few efforts are achieved are likely to disappear once the intervention is discontinued. (p.300).

> .... ecological intervention is necessary ... to provide adequate health care, nutrition, housing, employment and opportunity and status for parenthood. (p.301).

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